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10/593,187	09/18/2006	Frederique Cordelle	MM6023PCT	7286

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EXAMINER

CULLEN, SEAN P

ART UNIT	PAPER NUMBER
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1725

NOTIFICATION DATE	DELIVERY MODE
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10/11/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/593,187	Applicant(s) CORDELLE ET AL.	
	Examiner Sean P. Cullen, Ph.D.	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-21 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-21 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Status of Claims

1. **Claims 1-21** are pending.

Drawings

2. Applicants' amendment(s) have overcome the objection(s) to the drawing(s).

Claim Objections

3. **Claims 1-21** are objected to because of the following informalities:

Regarding **claims 1-21**, where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. See 37 CFR 1.75(i).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 4-21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites "a second compact zone" in line 3. Claim 3, which claim 4 is dependent, recites "a second compact zone" in lines 2-3. It is unclear if a second compact zone recited in

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claim 4 is further limiting a second compact zone recited in claim 3. The Examiner recommends “the second compact zone.”

Claim 5 recites “a first compact zone” in line 3. Claim 1, which claim 5 is ultimately dependent, recites “a first compact zone” in line 11. It is unclear if a first compact zone recited in claim 5 is further limiting a first compact zone recited in claim 1. The Examiner recommends “the first compact zone.”

Claim 6 recites “said a second compact zone” in line 2. Claim 3, which claim 6 is dependent, recites “a second compact zone” in lines 2-3. It is unclear if said a compact zone recited in claim 6 is further limiting a second compact zone recited in claim 3. The Examiner recommends “said second compact zone.”

Claim 7 recites “an electrode layer” in line 3. Claim 1, which claim 7 is dependent, recites “first and second electrode layers” in line 2. It is unclear if an electrode layer recited in claim 7 is further limiting first and second electrode layers recited in claim 1. The Examiner recommends “one of the first and second electrode layers.”

Claim 8 recites “comprising two bipolar plates” in line 2. Claim 7, which claim 8 is dependent, recites “also comprising at least one bipolar plate” in line 2. It is unclear if the fuel cell comprises two additional bipolar plates, which are recited in claim 8, in addition to the at least one bipolar plate recited in claim 7. The Examiner recommends “An individual cell for a fuel cell according to claim 1 further comprising two bipolar plates adjacent to each electrode layer.”

Claims 9-13 are ultimately dependent from claim 7 and include all the limitations of claim 7. Therefore, claims 9-13 are also indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites “a protuberance of the electrolyte layer” in lines 2-3. Claim 1, which claim 13 is ultimately dependent, recites “a protuberance of the electrolyte layer” in line 14. It is unclear if a protuberance of the electrolyte layer recited in claim 13 is further limiting a protuberance of the electrolyte layer recited in claim 1. The Examiner recommends “the protuberance of the electrolyte layer.”

Claims 14 and 15 are ultimately dependent from claim 7 and include all the limitations of claim 7. Therefore, claims 14 and 15 are also indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites “a first gas inlet” in line 2 and “a second gas inlet” in lines 4-5. Claim 1, which claim 16 is dependent recites “gas inlets” in line 2. It is unclear if a first gas inlet and second gas inlet recited in claim 16 is further limiting gas inlets recited in claim 1. The Examiner recommends “wherein the gas inlets comprise at least a first gas inlet ... and/or at least a second gas inlet ...”

Claim 16 recites “the entire area of the anode adjacent to said first gas inlet is a compact area of the anode” and “the entire area of the cathode adjacent to said second gas inlet is a compact area of the cathode.” Claim 1, which claim 16 is dependent, recites “a protuberance of the electrolyte layer which extends from the electrolyte layer into said electrode layer for forming an area of low porosity disposed adjacent the gas inlet dedicated to the other electrode layer.” It is unclear how the entire area of the electrode adjacent to a gas inlet can be a compact

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area of the electrode when a protuberance of the electrolyte layer is previously recited as being adjacent to the gas inlet.

Claims 17 and 18 are ultimately dependent from claim 16 and include all the limitations of claim 16. Therefore, claims 17 and 18 are also indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites "the porosity of the dense zone being larger than the porosity of the corresponding anode and cathode layer." It is unclear how a dense zone has a porosity larger than the cathode and anode layer. The specification teaches that the cathode and anode layers are porous (i.e., large porosity) and the compact/dense zone are slightly porous or non-porous (i.e., small porosity). See paragraphs 0030-0035. The specification indicates the porosity of the dense zone is smaller than the porosity of the corresponding anode and cathode layer.

Claim 20 recites "gas inlets" in line 2. Claim 19, which claim 20 is dependent, recites "gas inlets" in line 4. It is unclear if gas inlets recited in claim 20 are further limiting gas inlets recited in claim 19. The Examiner recommends "wherein the gas inlets for one of the anode and cathode are located in dense zones of the other anode and cathode."

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. **Claims 1-10 and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhl (U.S. 4,770,955 A) in view of Itoh (U.S. 2004/0175607 A1).

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Regarding **claim 1**, Ruhl discloses an individual cell for a fuel cell (1) comprising:

- first (5) and second electrode layers (4) and
- gas inlets (11 and 14) dedicated to each of said electrode layers respectively (4 and 5, Fig. 1) with each gas inlet (11 and 14) defining passages (11 and 14) within the cell (1) in direct contact with the electrode layer (4 and 5) to which each gas inlet (11 and 14) is dedicated for enabling gas transfer through the electrode layers (4 and 5, Fig. 1, C4/L42-56) with
- said electrode layers having a first (C3/L43-61) and a second porosities (C4/L11-32),
- a solid electrolyte layer (6) located between said first and second electrode layers (4 and 5, Fig. 1) with
- each of the two electrode layers (4 and 5) consisting of an anode (4) and a cathode (5, Fig. 1),
- at least one of the two electrode layers (4 and 5) having at least a first compact zone (7 and 8, Fig. 1) with a third porosity (C3/L62-C4/L10),
- which is lower than the porosity of the electrode layer (4 and 5) in which the first compact zone (7 and 8, Fig. 1) is located (C3/L62-C4/L10),
- wherein the first compact zone (7 and 8) is a protuberance which extends from the electrolyte layer (6) into said electrode layer (4 and 5) for forming an area of low porosity disposed adjacent the gas inlet (11 and 14) dedicated to the other electrode layer (4 and 5, Fig. 1), and

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- wherein said protuberance forms an internal seal creating a self-tight fuel cell architecture (abstract).

Ruhl does not explicitly disclose:

- a protuberance of the electrolyte layer

Itoh discloses solid oxide fuel cell (abstract) comprising a compact zone (8b), which is a protuberance (8b) of the electrolyte layer (7, Fig. 2) to seal an electrode layer (2) to form a seal from a single component [0019] to reduce the number of parts [0025], the cost of manufacturing [0016] and increase the strength of the fuel cell stack [0025]. Ruhl and Itoh are analogous art because they are directed to solid oxide fuel cells. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the seal of the individual fuel cell of Ruhl with the protuberance of the electrolyte layer as taught by Itoh to form a seal from a single component to reduce the number of parts, the cost of manufacturing and increase the strength of the fuel cell stack.

Regarding **claim 2**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- the first electrode layer (5) has a first thickness (Fig. 1) and
- said first compact zone (7) has a thickness identical to the first thickness (Fig. 1).

Regarding **claim 3**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein the second electrode layer (4) comprises at least a second compact zone (8) with a fourth porosity (C3/L62-C4/L10),
- the fourth porosity being lower than the second porosity (C3/L62-C4/L10).

Regarding **claim 4**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein the second electrode layer (4) has a second thickness (Fig. 1), and
- a second compact zone (8) has a thickness identical to the second thickness (Fig. 1).

Regarding **claim 5**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein the first electrode layer (5) has a first thickness (Fig. 1) and
- a first compact zone (7) has a thickness identical to the first thickness (Fig. 1).

Regarding **claim 6**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein a second compact zone (8) is composed is a protuberance

Ruhl does not explicitly disclose:

- a protuberance of the electrolyte layer

Itoh discloses solid oxide fuel cell (abstract) comprising a compact zone (8b), which is a protuberance (8b) of the electrolyte layer (7, Fig. 2) to seal an electrode layer (2) to form a seal from a single component [0019] to reduce the number of parts [0025], the cost of manufacturing [0016] and increase the strength of the fuel cell stack [0025]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make seal of the individual fuel cell of modified Ruhl with the protuberance of the electrolyte layer as taught by Itoh to form a seal from a single component to reduce the number of parts, the cost of manufacturing and increase the strength of the fuel cell stack.

Regarding **claim 7**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- at least one bipolar plate (2) adjacent to an electrode layer (5, Fig. 1).

Regarding **claim 8**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- two bipolar plates (2 and 3) adjacent to each electrode layer (4 and 5, Fig. 1).

Regarding **claim 9**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein the bipolar plate (2 and 3) has a coefficient of thermal expansion (C2/L48-C3/L12) higher than the coefficient of thermal expansion of the adjacent electrode layer (4 and 5) and the electrolyte layer (6, C3/L43-C4/L32).

Regarding **claim 10**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein the bipolar plate (2 and 3) is connected to the adjacent electrode layer (4 and 5) by nesting (Figs. 1 and 3, C2/L48-C3/L12).

Regarding **claim 16**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- comprising at least a first gas inlet (14) dedicated the cathode (5) such that the entire area of the anode (4) adjacent to said first gas inlet (14) is a compact area (8) of the anode (4, Fig. 1)

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- at least a second gas inlet (11) dedicated to the anode (4) such that the entire area of the cathode (5) adjacent to each second gas inlet (11) is a compact area (7) of the cathode (5).

Regarding **claim 17**, modified Ruhl discloses all claim limitations set forth above and further discloses a fuel cell comprising:

- a stack of cells (20)
- each cell being separated from its neighbor by a bipolar plate (2 and 3, Figs. 1 and 3).

Regarding **claim 18**, modified Ruhl discloses all claim limitations set forth above and further discloses a fuel cell:

- with a circular plane geometry (Fig. 2).

8. **Claims 11, 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhl (U.S. 4,770,955 A) in view of Itoh (U.S. 2004/0175607 A1) as applied to claim 10 above, and further in view of Fischer et al. (U.S. 3,554,808 A).

Regarding **claims 11, 14 and 15**, modified Ruhl discloses all claim limitations set forth above and further discloses an individual cell:

- wherein the compact zone (7 and 8) is adjacent to the gas inlet (11 and 14).

Ruhl does not explicitly disclose:

- wherein the bipolar plate comprises at least a protuberance and
- the adjacent layer comprises a cavity,
- said protuberance of the bipolar plate and the cavity fitting one into the other.

- wherein the cavity is larger in width than the width of the protuberance of the bipolar plate.
- comprising a plurality of cavities.

Fischer et al. discloses a solid oxide fuel cell (abstract) wherein a bipolar plate (5') comprises at least one protuberance (Fig. 4) and the adjacent layer (4') comprises a cavity (15), said protuberance (Fig. 4) of the bipolar plate (5') and the cavity (15) fitting one into the other (Fig. 4); wherein the cavity (15) is located adjacent to the gas inlet (18) of the electrode layer (4'); wherein the cavity (15) is larger in width than the width of the protuberance (Fig. 4) of the bipolar plate (5'); and comprising a plurality of cavities (Fig. 4) to produce a gas tight fuel cell (C4/L3-20) to increase the efficiency of the fuel cell stack. Ruhl and Fischer et al. are analogous art because they are directed to solid oxide fuel cells. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the individual cell of modified Ruhl with the protuberance and cavity of Fischer et al. to produce a gas tight fuel cell to increase the efficiency of the fuel cell stack.

9. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhl (U.S. 4,770,955 A) in view of Itoh (U.S. 2004/0175607 A1) as applied to claim 1 above, and further in view of Shibata et al. (U.S. 2004/0058223 A1).

Regarding **claim 21**, modified Ruhl discloses all claim limitations set forth above, but does not explicitly disclose an individual cell:

- wherein said first compact zone is composed of the densified material from which the electrode including the said compact zone is made.

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Shibata et al. discloses a first compact zone (23A) is composed of a densified material (see compressed, [0041]) which the electrode including the said compact zone is made (see electrode portions, [0041]) to allow the gas channel to retain good gas diffusibility and water permeability ([0042]). Ruhl and Shibata et al. are analogous art because they are directed to fuel cells. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the compact zone of modified Ruhl with a densified material of the electrode as taught by Shibata et al. to allow the gas channel to retain good gas diffusibility and water permeability.

Response to Arguments

10. Applicant's arguments filed December 3, 2010 with respect to **claims 1-11, 14-18 and 21** have been fully considered but they are not persuasive.

Regarding applicants' argument that Ruhl does not teach a protuberance (P11/¶3), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding applicants' argument Ruhl teaches a structure which requires external seals and does not contemplate forming an internal seal from a protuberance of the electrolyte layer (P11/¶3), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding applicants' argument that Itoh teaches an air supply and hydrogen supply for the fuel cell applied from outside the cell stack (P11/¶4), note that while Itoh does not disclose all the features of the present claimed invention, Itoh is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely seals (i.e. gaskets) of gas inlets can be formed from protuberances of the electrolyte layer, and in combination with the primary reference, discloses the presently claimed invention. Ruhl discloses the configuration and location of seals for gas inlets and Itoh discloses that seals can be replaced with protuberances of electrolyte layers. Therefore, the combination of the references arrives at the claimed invention.

Regarding applicants' argument that claims 2-10 and 16-18 are patentable because claim 1 is patentable (P12/¶3), claim 1 is not patentable as detailed above.

Regarding applicants' argument that Fischer et al. disclose a protuberance as defined in claim 1 (P12/¶6), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The combination of Ruhl and Itoh disclose a protuberance as defined in claim 1 as detailed above.

11. Applicant's arguments with respect to **claims 12, 13, 19 and 20** have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

12. **Claims 12 and 13** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

The closest art of record is Ruhl (U.S. 4,770,955 A).

Ruhl discloses an individual cell for a fuel cell (1) comprising first (5) and second electrode layers (4) and gas inlets (11 and 14) dedicated to each of said electrode layers respectively (4 and 5, Fig. 1) with each gas inlet (11 and 14) defining passages (11 and 14) within the cell (1) in direct contact with the electrode layer (4 and 5) to which each gas inlet (11 and 14) is dedicated for enabling gas transfer through the electrode layers (4 and 5, Fig. 1, C4/L42-56) with said electrode layers having a first (C3/L43-61) and a second porosities (C4/L11-32), a solid electrolyte layer (6) located between said first and second electrode layers (4 and 5, Fig. 1) with each of the two electrode layers (4 and 5) consisting of an anode (4) and a cathode (5, Fig. 1), at least one of the two electrode layers (4 and 5) having at least a first compact zone (7 and 8, Fig. 1) with a third porosity (C3/L62-C4/L10), which is lower than the porosity of the electrode layer (4 and 5) in which the first compact zone (7 and 8, Fig. 1) is located (C3/L62-C4/L10), wherein the first compact zone (7 and 8) is a protuberance which extends from the electrolyte layer (6) into said electrode layer (4 and 5) for forming an area of low porosity disposed adjacent the gas inlet (11 and 14) dedicated to the other electrode layer (4 and 5, Fig. 1), and wherein said protuberance forms an internal seal creating a self-tight fuel cell

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architecture (abstract); further comprising at least one bipolar plate (2) adjacent to an electrode layer (5, Fig. 1); wherein the bipolar plate (2) has a coefficient of thermal expansion (C2/L48-C3/L12) higher than the coefficient of thermal expansion of the adjacent electrode layer (4 and 5) and the electrolyte layer (6, C3/L43-C4/L32); and wherein the bipolar plate (2) is connected to the adjacent electrode layer (4 and 5) by nesting (Figs. 1 and 3, C2/L48-C3/L12).

Ruhl does not disclose, teach or suggest the following feature(s):

A individual fuel cell comprising a protuberance of the bipolar plate, said protuberance of the bipolar plate fitting into a cavity in a compact zone of the adjacent layer.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Cullen, Ph.D. whose telephone number is (571)270-1251.

The examiner can normally be reached on Monday thru Thursday 6:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on 571-272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. P. C./

Examiner, Art Unit 1725

/Basia Ridley/

Supervisory Patent Examiner, Art Unit 1725